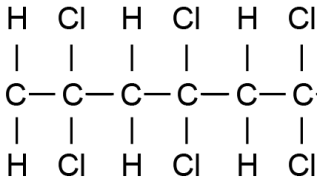
ANSWERS: Polymerisation

1.



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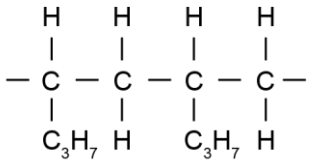
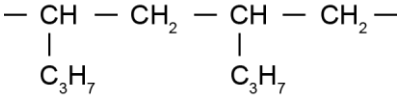


or



The molecular formulae of the two repeating units of both polymers are the same, but the structural formulae are different.

OR

States repeating units are structural isomers.

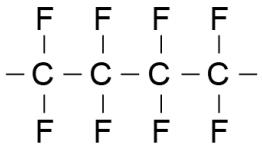
Addition polymerisation occurs when the C=C breaks and the carbon atoms in this double bond join to each other from adjacent molecules to form long chains.

In the first reaction (Reaction 3), the polymer formed will have a carbon with one hydrogen and a methyl group, and a carbon with one hydrogen and an ethyl group, as its repeating unit, due to the double bond being on the C2 position.

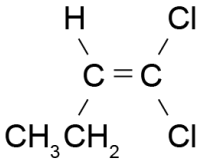
In Reaction 5, since the double bond is in a different position (the C1 position), the polymer formed will have as its repeating unit a carbon atom with 2 hydrogen atoms attached, and a carbon atom with one hydrogen attached and a propyl group attached.

3.

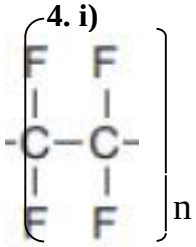
(i)



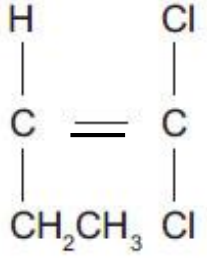
(ii) $CH_3CH_2CHCCl_2$ or $CH_3CH_2CH=CCl_2$ or



4. i)



ii)



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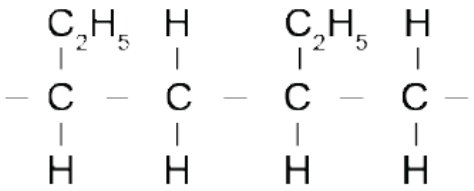

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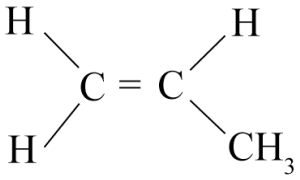

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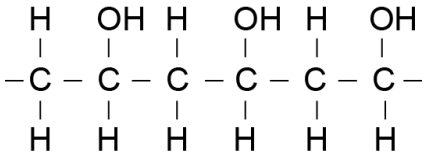

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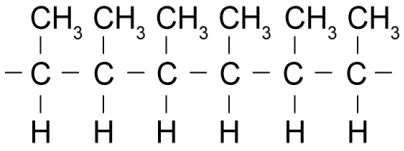

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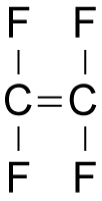

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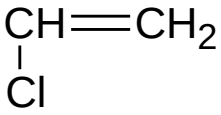
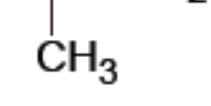
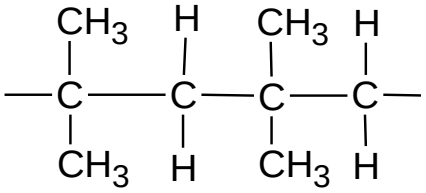


11. monomer:



polymer



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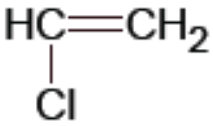

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